SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Vitalis**
Product Use:	Fungicide
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Adria Crop Protection Solutions**
Address:	407 State Highway 16 Kumeu 0841, Auckland
Telephone:	+64 9 412 9817
Fax:	+64 9 412 9807
Website:	www.adria.nz
Emergency No:	**0800 734 607 (24hr)** **0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	9 November 2018

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR101177

Pictograms

Toxic Irritant Chronic Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1C (dermal)	H311	Toxic in contact with skin.	Acute Tox. 3
6.1D (oral)	H302	Harmful if swallowed.	Acute Tox. 4
6.3A	H315	Causes skin irritation.	Skin Irrit. 2
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.9B	H373	May cause damage to organs through single, prolonged or repeated exposure.	STOT RE 2
9.1B	H411	Toxic to aquatic life with long lasting effects.	Aquatic Chronic 2
9.3C	H433	Harmful to terrestrial vertebrates.	

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P260	Do not breathe fumes, mist, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P361/4	Remove/Take off immediately all contaminated clothing and wash before reuse.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Refer to Section 13.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Content (%w/v)	CAS NUMBER.
Prothioconazole	50 %	178928-70-6
Non-hazardous ingredients	To bal	-

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on Skin — IF ON SKIN: Wash with plenty of soap and water. IF exposed: Call a POISON CENTRE or doctor/physician if you feel unwell. If skin irritation/rash occurs: Get medical advice/attention.

If Swallowed — If swallowed, do NOT induce vomiting. Rinse mouth. For advice contact the National Poisons Centre 0800 POISONS (0800 764 766) or a doctor immediately.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion: Harmful if swallowed.

Inhalation: Not applicable.

Skin: Toxic if in contact with skin. Causes skin irritation.

Eye: Causes serious eye irritation.

Chronic: May cause damage to organs through single, prolonged or repeated exposure.

Treatment: Treat according to symptoms (decontamination, vital functions). No known specific antidote.

Section 5. Fire Fighting Measures

Hazard Type	This product is not flammable.
Hazards from products	Carbon monoxide, hydrogen chloride, hydrogen fluoride, nitrogen oxides, organochloric compounds.
Suitable Extinguishing media	Water spray, foam, dry extinguishing media, carbon dioxide.
Recommended protective clothing & Precautions for firefighters	Wear SCBA and chemical-protective clothing.
HAZCHEM CODE	**3Z**

Section 6. Accidental Release Measures

Personal precautions:

Use protective clothing as per Section 8. Avoid contact with skin, eyes and clothing. Remove contaminated clothes and shoes immediately.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Spill and Disposal procedures:

Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of waste safely, according to Local Council regulations.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Do not breathe fumes, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Keep away from children.
- Store locked up.
- Avoid temperature extremes and protect from sunlight.
- Store away from incompatible materials listed in Section 10.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³

No ingredient has exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls / Industrial Hygiene
Ensure adequate ventilation.

Personal Protection Equipment

Eyes	Safety goggles with side-shields.
Skin	Suitable chemical resistant safety gloves (e.g. nitrile rubber (.4mm)). Body protection (chemical protection suit, boots) must be chosen depending on activity and possible exposure.
Respiratory	Respirator (organic vapour and particulate matter) should be used if airborne particles are generated when handling this material.
General	Keep away from food, drink and animal feedstuffs. No eating, drinking or smoking during use. Wash hands and face before breaks and after work.

Section 9 Physical and Chemical Properties

Appearance	Liquid, Suspension concentrate
Colour	Brown
Odour	Characteristic odour
Odour Threshold	Not available
pH	6.12
Melting Point/Boiling Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Density	0.98 g/ml
Water Solubility	Not available
Octanol/water partition coefficient:	Not available
Auto Ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	None known.
Conditions to Avoid	Temperature extremes.
Incompatible Materials	None known at time of publishing.
Hazardous Decomposition Products	Carbon monoxide, hydrogen chloride, hydrogen fluoride, nitrogen oxides, organochloric compounds.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. LD50: (rat) 2,500mg/kg
Dermal	Toxic if in contact with skin. LD50(rat) > 4,000mg/kg
Inhalation	Not applicable. LC50: (rat) > 5mg/l (4h)
Eye	Causes serious eye irritation.
Skin	Causes skin irritation.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	May cause damage to organs through single exposure.
STOT/RE	May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

Ecological effects information	9.1B = Toxic to aquatic life with long lasting effects. 9.3C = Harmful to terrestrial vertebrates.
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available
Acute fish toxicity:	LC50: 4.02mg/l Rainbow trout (Oncorhynchus mykiss) (96 h)
Toxicity for daphnia:	EC50: 2.9mg/l water flea (Daphnia magna) (48 h)
Toxicity to algae:	EC50:12.7mg/l (Pseudokirchneriella subcapitata) (72 h)
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:
Triple rinse container and add residue to spray tank. Return empty container to an AgRecovery collection point for disposal.

Empty container precautions:
Avoid contamination of any water supply with chemical or empty container.

Precautions or methods to avoid: Avoid release to the environment.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Road, Rail, Sea and Air Transport

UN No	3082
Class - Primary	9
Packing Group	III
Proper Shipping Name	**ENVIRONMENTALLY HAZARDOUS SUBSTANCE. N.O.S. (Prothioconazole solution)**
Marine Pollutant	Yes
Special Provisions- Limited Quantities	If the product's individual container is below 5kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: HSR101177

HSNO Classification: 6.1C(dermal), 6.1D(oral), 6.3A, 6.4A, 6.9B, 9.1B, 9.3C

HSW (HS) Regulations 2017	**Trigger Quantity**
Certified Handlers	Not required
Location Certificate	1000L(6.1C)
Signage Trigger Quantities (Schedule 3)	1000L (9.1B)
Emergency Response Plan (Schedule 5)	1000L (9.1B)
Secondary Containment (Schedule 5)	1000L (9.1B)
Tracking (Schedule 26)	Not required
HSNO Additional Controls (Restrictions of use)	**Refer to EPA www.epa.govt.nz for controls document - HSR101177**
77A - The following statements, or words to the same effect, must be included on the product labels and safety data sheets of this substance:	This substance must not be applied into or onto water. - This substance must be applied by ground-based methods only- The maximum application rate of this substance is 800 mL Vitalis/ha (200 g of prothioconazole/ha). The maximum application frequency of this substance must be no more than three applications per year, with a minimum of 21 days between applications.- For the protection of aquatic organisms the a buffer zones of at least 5 metres must be observed from downwind water bodies- Do not apply when wind speeds are less than 3 km/hr or more than 20 km/hr as measured at the application site.- Spraying equipment must be calibrated to deliver medium or larger droplets as defined by the American Society of Agricultural and Biological Engineers ASABE Standard (S572) or the British Crop Production Council guideline.
77A	a) This substance must not be applied onto or into water.

	Means water in all its physical forms, whether flowing or not, and whether over or under ground, but does not include water in any form while in a pipe, tank or cistern or water used in the dilution of the substance prior to application b) A maximum application rate is set for this substance. Variation: The maximum application rate of this substance is 800 mL Vitalis/ha (200 g of prothioconazole/ha). This substance must not be applied more than three times per year, with a minimum of 21 days between applications. c) The maximum level of an impurity in the technical grade active material for this substance is set. Variation: The following maximum limits are set for toxicologically relevant impurities in the active ingredient prothioconazole used to manufacture this substance: - Toluene: 5 g/kg maximum- Prothioconazole-desthio (2-(1-chlorocycloproyl)1-(2-chlorophenyl)-3-(1,2,4-triazol-1-yl)-propan-2-ol): 0.5 g/kg d) A restriction has been placed on the application method for this substance. Variation: This substance must be applied using ground-based methods only. Ground-based methods of applying pesticides include, but are not limited to, application by ground boom, airblast or knapsack, and do not include aerial application methods. This substance must be applied with a nozzle set to provide medium or larger sized droplets. Medium droplet size, as classified by the American Society of Agricultural & Biological Engineers (ASABE) droplet size classification s e) Buffer zones apply to this substance Variation: This substance must not be applied within 5 metres of a downwind water body. This distance is the distance between the edge of the application area closest to the water body and the edge of the water in the water body closest to the application area. Downwind refers to a location in a direction to where the wind blows away from the application area. Waterbody includes all natural and modified/artificial water courses such as reservoirs, irrigation canals, water-supply races, canals for the supply of water for electricity generation or farm drainage, ditches, streams, rivers, ponds and lakes. For clarity, it excludes fully covered pipes, tanks or other enclosed structures, puddles or groundwater.
Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate

HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 2	Certain substances restricted to workplaces only.
HPC Notice Part 3	Hazardous substances in a place other than a workplace.
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances.
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P9324

Section 16 Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact Adria, if further information is required.

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